

Appl. No. 09/997,882
Reply to Office action of 12/05/2003

REMARKS

Reconsideration of the above-referenced application in view of the above amendment, and of the following remarks, is respectfully requested.

Claims 1-6 are pending in this case. Claim 1 is amended herein and claims 7-16 are cancelled herein.

The Examiner rejected claims 1-6 under 35 U.S.C. 102(a) or (e) as being anticipated by Wu (U.S. Patent 6,410,403).

Applicant respectfully submits that amended claim 1 is unanticipated by Wu as there is no disclosure or suggestion in Wu of chemically mechanically polishing a gap fill material stopping on a first film, stripping the first film to expose a second film, and after exposing the second film, chemically mechanically polishing the gap fill material and the second film stopping on a third film. Wu teaches CMP of a gap fill layer 34 stopping at some distance in second nitride 24 (a first film), then etching to remove the second nitride 24 and etching to remove the sacrificial oxide 22. Sacrificial oxide 22 is not removed by CMP as suggested by the Examiner. It is removed by etching (Col. 3, lines 58-60). A second CMP step is then performed with nitride layer 18 exposed. The second CMP step stops on the same nitride layer 18. Wu does not teach a second film and a third film where the second film is exposed and CMP'd along with the gap fill material and the CMP step stops on the third film. In Wu, the same layer, nitride layer 18, is exposed at the beginning of the second CMP step and is present at the end of the CMP step. Accordingly, Applicant respectfully submits that claim 1 and the claims dependent thereon are unanticipated by Wu.

The Examiner rejected claims 1, 4, and 6 under 35 U.S.C. § 103(a) as being unpatentable over Tan et al.


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Applicant respectfully submits that claim 1 is patentable over Tan et al as there is no disclosure or suggestion in Tan of chemically mechanically polishing a gap fill material stopping on a first film, stripping the first film to expose a second film, and after exposing the second film, chemically mechanically polishing the gap fill material and the second film stopping on a third film. Tan teaches only a single CMP step. While the Examiner argues it would be obvious to remove the underlying layer by CMP instead of by etch, this does not satisfy the claim requirements. The claim requires CMP of the gap fill layer twice, not CMP of one layer and then CMP of another layer. Furthermore, it is an object of Tan to leave the field oxide raised above the surface to eliminate the wrap-around corner effect of the prior art. Thus, one of ordinary skill in the art would not be motivated to replace the etch removal of the underlying layer with a CMP step and such a step would not be obvious. Accordingly, Applicant respectfully submits that claim 1 and the claims dependent thereon are patentable over Tan.

The other references cited by the Examiner have been reviewed, but are not felt to come within the scope of the claims as amended.

In light of the above, Applicant respectfully requests withdrawal of the Examiner's rejections and allowance of claims 1-6. If the Examiner has any questions or other correspondence regarding this application, Applicant requests that the Examiner contact Applicant's attorney at the below listed telephone number and address.

Respectfully submitted,



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